

ABSTRACT

The method for powering down a circuit for a data retention mode includes: changing a supply voltage node from an active power voltage level to an inactive power level; coupling a source of a P channel device to the supply voltage node; providing a retaining power supply voltage level to a back gate of the P channel device; changing a drain voltage of the P channel device to a reference voltage level, wherein the reference voltage level is different from the retaining power supply voltage level; and changing a gate voltage of the P channel device to the reference voltage level.